

February 22, 2013

To: Executive Board

Subject: **Electric Bus Charger Upgrade**

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### **Recommendation**

Authorize the Executive Director to negotiate final contract terms and conditions and award a contract to Proterra, Inc. in the amount of \$363,515 to upgrade the Ecoliner electric bus charging infrastructure.

### **Background**

Under Agreement No. 09-034 Foothill Transit purchased three (3) electric buses and two (2) first generation chargers from Proterra, Inc. of Greenville, South Carolina in 2009. The buses were manufactured by Proterra and the chargers by AeroVironment (AV), headquartered in Monrovia, California. Foothill Transit subsequently entered into an agreement with Proterra under Agreement No. 12-007 to provide preventative and emergency maintenance services on the fast charge station, located at the Pomona Transit Center (PTC) and the slow charge “shop” charger located at our Pomona operations and maintenance facility. This arrangement is similar to the contract Foothill Transit has with Clean Energy to provide maintenance on the agency’s compressed natural gas (CNG) fueling stations.

Proterra currently subcontracts with AV for specific charging infrastructure maintenance support services; and while the charging station technology itself has generally met performance expectations thus far, when issues do arise, support from AV has been extremely intermittent, slow and limited. Uptime on the charging station hovers around 90 percent and most downtime is related to “Bluetooth” wireless technology communication issues, as the PTC is heavily frequented by the public and interference is common. Proterra is resolving service response and these technology issues in future electric bus deployments by moving to charging technology manufactured by Eaton.

### **Analysis**

In 2010 Foothill Transit was awarded the largest federally-funded clean transportation grant in the nation under the Transit Investments for Greenhouse Gas and Energy Reduction (TIGGER) II program. This funding is specifically restricted to the purchase of nine (9) new electric buses and upgrades to the existing Ecoliner electric bus charging infrastructure.

Foothill Transit has evaluated the state of the first generation charging infrastructure and, as planned, intends to use the TIGGER II funding to upgrade the current charging

infrastructure to increase maintenance support and provide greater long-term technological capacity and reliability.

The upgrades consist of three elements 1) the “slow charge shop charger,” 2) the charge station control electronics, and 3) the “fast charge” chargers. Specific details related to these upgrades, including the cost breakdown, are detailed below:

## 1) Shop Charger

The upgrade includes conduit and cable, the charger, travel, engineering, transformer, drawings, and shipping costs.

Foothill Transit Cost	\$46,000
Proterra Investment	\$24,000
Total Cost	\$70,000

## 2) Charge Station Control

The upgrade includes separating the charge station control into two separate sides so that a “fault” will only impact the side it corresponds to. There will also be upgrades to the “Bluetooth” wireless technology that will ....

Foothill Transit Cost	\$13,500
Proterra Investment	\$31,000
Total Cost	\$44,500

## 3) Chargers

This upgrade is comprised of the decommissioning and replacement of the two AV chargers with Eaton chargers on both sides of the station including the equipment, engineering, drawings, equipment, travel, installation, and commissioning.

Foothill Transit Cost	\$274,000
Proterra Investment	\$908,000
Total Cost	\$1,182,000



### Budget Impact

Foothill Transit's share of this project is \$363,515, including a 9 percent sales tax. This project will be funded utilizing TIGGER II grant funds in the amount of \$327,163.50, available in Foothill Transit's approved FY 2013 capital budget. Per the requirements of the grant, Foothill Transit will pay 10 percent or \$36,351.50 using local "match" funds, also in the approved FY 2013 budget. An in-kind investment by Proterra in the amount of \$963,000 will fund the remaining project costs.

Sincerely,

A handwritten signature in black ink, appearing to read "Lauren Cochran Festner".

Lauren Cochran Festner  
Director of Maintenance and Vehicle Technology

A handwritten signature in black ink, appearing to read "Doran J. Barnes".

Doran J. Barnes  
Executive Director